

## **REMARKS**

### **Overview of the Office Action**

Claims 1, 3-5, 8, 10, and 11 have been rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent Appl. Pub. No. 2002/0126720 ("Yang").

Claims 2 and 9 have been rejected under 35 U.S.C. §103(a) as unpatentable over Yang in view of US Patent Appl. Pub. No. 2002/0071464 ("Coldren").

Claims 6 and 7 have been rejected under 35 U.S.C. §103(a) as unpatentable over Yang in view of U.S. Patent No. 6,393,038 ("Raymond").

### **Status of the claims**

Claims 1-11 have been amended.

Claims 1-11 remain pending.

### **Amendments to the claims**

The claims have been amended to conform with U.S. Patent practice and increase clarity and readability. No new matter has been introduced.

### **Rejection of claims 1, 3-5, 8, 10, and 11 under 35 U.S.C. §102(b)**

The Office Action states that Yang discloses all of Applicants' recited elements.

Applicants' invention is directed to a semiconductor laser. The semiconductor laser includes at least one absorbing layer (8) within the laser resonator. The absorbing layer (8) reduces the transmission  $T_{Res}$  of the laser radiation (10) in the laser resonator for the purpose of decreasing the sensitivity of the semiconductor laser to disturbances created by the radiation (9)

fed back into the laser resonator (see paragraph [0022] of Applicants' specification).

The Examiner cites paragraph [0019] of Yang as teaching Applicants' recited invention. Applicants disagree.

Yang fails to disclose "said absorbing layer configured to reduce the transmission  $T_{Res}$  of the laser radiation in the laser resonator and decrease the sensitivity of the semiconductor laser to disturbances created by the radiation fed back into the laser resonator", as expressly recited in independent claim 1.

Yang discloses a vertical-cavity surface-emitting laser structure that includes a substrate and a multi-layered structure stacked over the substrate (see abstract of Yang). According to Yang, in a part of the laser multi-layers, a torus region is selectively heavily doped with an aperture (18) that remains intact to form an absorber (19) for higher-order modes (see paragraph [0019] of Yang). The thickness of the absorber of Yang needs to be optimized, so that only a part of the fundamental mode light (<10%) is subjected to an absorption loss. This suppresses lasing of the higher-order modes, other than the fundamental mode (i.e., only the higher-order modes get absorbed by the absorber) (see paragraph [0019] of Yang).

This means that the absorber of Yang is not configured to reduce the optical feedback sensitivity of the laser by absorbing light. Instead, the absorber of Yang absorbs only higher-order modes in the torus region.

In the center of the torus of Yang, there is a cavity in the doped region (see Fig. 1 of Yang). Through the cavity in the torus of Yang, radiation fed back can couple into the laser resonator. Hence, the absorber of Yang is not configured to reduce the transmission of the laser radiation in the laser resonator to decrease the sensitivity of the semiconductor laser to disturbances created by the radiation fed back into the laser resonator, as recited in Applicants'

claim 1. There is nothing taught or suggested in the cited paragraph [0019], or the entire specification of Yang that indicates a laser structure with an absorbing layer that is configured to absorb radiation fed back into the laser resonator.

Accordingly, Yang fails to disclose "said absorbing layer configured to reduce the transmission  $T_{Res}$  of the laser radiation in the laser resonator and decrease the sensitivity of the semiconductor laser to disturbances created by the radiation fed back into the laser resonator".

In view of the foregoing, Applicants submit that Yang fails to teach or suggest the subject matter recited in independent claim 1. Accordingly, claim 1 is patentable over Inou under 35 U.S.C. §102(b).

#### Dependent claims

Claims 3-5, 8, 10, and 11, which depend from independent claim 1, incorporate all of the limitations of independent claim 1 and are, therefore, deemed to be patentably distinct over Yang for at least those reasons discussed above with respect to independent claim 1.

#### Rejection of claims 2 and 9 under 35 U.S.C. §103(a)

The Office Action states that the combination of Yang and Coldren teaches all of the elements recited in Applicant's claim.

Yang has been previously discussed and does not teach or suggest the invention recited in Applicant's independent claim 1.

Because Yang does not teach or suggest the subject matter recited in Applicant's independent claim 1, and because Coldren does not teach or suggest any elements of the

independent claims that Yang is missing, the addition of Coldren to the reference combination fails to remedy the non-obviousness of the claims.

Claims 2 and 9, which depend directly from independent claim 1, incorporates all of the limitations of independent claim 1 and are therefore deemed to be patentably distinct over the combination of Yang and Coldren for at least those reasons discussed above for independent claim 1.

Rejection of claims 6 and 7 under 35 U.S.C. §103(a)

The Office Action states that the combination of Yang and Raymond teaches all of the elements recited in Applicant's claim.

Yang has been previously discussed and does not teach or suggest the invention recited in Applicant's independent claim 1.

Because Yang does not teach or suggest the subject matter recited in Applicant's independent claim 1, and because Raymond does not teach or suggest any elements of the independent claims that Yang is missing, the addition of Raymond to the reference combination fails to remedy the non-obviousness of the claims.

Claims 6 and 7, which depend directly from independent claim 1, incorporates all of the limitations of independent claim 1 and are therefore deemed to be patentably distinct over the combination of Yang and Raymond for at least those reasons discussed above for independent claim 1.

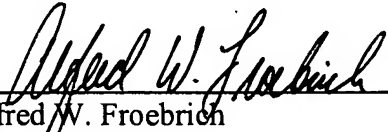
Conclusion

In view of the foregoing, reconsideration and withdrawal of all rejections, and allowance of all pending claims, are respectfully solicited.

Should the Examiner have any comments, questions, suggestions, or objections, the Examiner is respectfully requested to telephone the undersigned.

Respectfully submitted,

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